18th General Meeting

of the

American Electrochemical Society

To be held in Chicago, Illinois,
October 13, 14, 15,
1910.

LOCAL COMMITTEE.

H. N. McCoy, Chairman.
Arva B. Marvin, Secretary.

C. B. Askew,
Chas. F. Baker,
F. M. de Beers,
David J. Block,
William Brady,
William W. Burson,
R. T. Conger,
Wm. A. Converse,
Ervin Dryer,
Geo. E. Folk,
Albert E. Greene,
Edward Gudeman,
Wm. Hoskins,
L. E. Howard,
A. R. Johnson,
Geo. O. Knapp,
Otto Kney,
M. G. Lloyd,
F. H. Loveridge,
James Lyman,
A. B. Marvin,
H. T. Matthew,
Harry McCormack,
Herbert N. McCoy,
J. M. Morehead,
Frederick J. Newman,
Chas. G. Osborne,
W. D. Richardson,
Albert K. Rodke,
R. D. Small,
Edwin H. Smythe,
Frederick T. Snyder,
Leland L. Summers,
F. K. Vial,
Fred. B. Wheeler,
Harold K. Weld,
Wm. L. Wilson,
Edson R. Wolcott,
Edward Wray,
W. V. Young.

Entertainment Committee: Harry McCormack, Chairman; David J. Block, William A. Converse, F. M. de Beers, James Lyman, Arba B. Marvin, F. J. Newman, W. D. Richardson, E. R. Wolcott.

Excursion and Transportation Committee: F. T. Snyder, Chairman; William Brady, F. L. Collins, Edward Gudeman, A. R. Johnson, F. H. Loveridge, E. Lunn, William L. Wilson, W. V. Young.

Press Committee: H. T. Matthew, Chairman; M. G. Lloyd, Harry McCormack.

Ladies' Committee: Mrs. W. D. Richardson, Chairman; Mrs. Arba B. Marvin, Mrs. H. T. Matthew, Mrs. H. N. McCoy, Mrs. F. T. Snyder.

PROGRAM XVIIIth GENERAL MEETING

HOTEL HEADQUARTERS.

Congress Hotel, Michigan Boulevard and Congress Street.

See schedule of hotels and rates on last page of program. Secure accommodations in advance.

REGISTRATION.

Members and guests will register, receive badges and general information, at the Congress Hotel. The Secretary, or his assistant, will be on hand for this purpose after 6 p.m., Wednesday, October 12.

Members and guests should make it an object to register as soon as possible after arrival.

Tickets for the Friday evening dinner should be obtained from the Registrar, when registering.

PLACES OF MEETING.

The sessions of Thursday morning, October 13, and Friday morning, October 14, will be held in the Florentine Room of the Congress Hotel.

The session of Saturday morning will be held in Room 20, Kent Chemical Laboratory, the University of Chicago.

Take Illinois Central suburban express train at 8:20 a.m. at Van Buren Street Station to 57th Street Station (15 minutes), and walk west to the University. Or take Cottage Grove Avenue-Grand Crossing surface car south on Wabash Avenue, leave car at 58th Street, and walk east to University (40 minutes).

EXCURSIONS AND VISITS.

Thursday Afternoon, October 13.

Four alternative excursions are arranged for Thursday afternoon.

1. Fisk Street Power House and Market Street Transformer and Storage Battery Station of Commonwealth Edison Company. The Power station (22nd and Fisk Streets) is a 120,000 kilowatt steam electric generating plant with 12,000 kilowatt units driven by Curtis turbines. The Battery Station (76 Market Street) contains several types of rotary transformers and batteries.

Party, under guidance of Mr. E. Lunn, will leave the Congress Hotel at 2:00 p.m., going by street cars to destination (30 minutes). Party will leave Power House at 4:00 p.m. by street cars for Market Street storage battery station, arriving at 4:30 p.m. After spending thirty minutes at station, party can reach Congress Hotel by Lake Street Elevated in ten minutes (5:10 p.m.).

2. Western Electric Company, Hawthorne Plant: extensive modern factory for manufacture of telephones and other electrical apparatus. Party under guidance of Mr. W. V. Young will leave Congress Hotel at 2:00 p.m., and take Logan Square train on Metropolitan Elevated, at State and Van Buren Streets for Hawthorne (one hour). Returning, arrive in city at 5:30 p.m.

3. Factory of Automatic Electric Company, 1001 W. Van Buren Street, Market Street Stor-

age Battery Station of Commonwealth Edison Company (76 Market Street), and Hoskins Manufacturing Company Demonstration Plant.

The Automatic Electric Company employs 1300 persons in the manufacture of automatic telephones. The company has several thousand telephones in operation in Chicago.

Party under the guidance of Mr. F. T. Snyder will leave the Congress Hotel at 2:00 p.m. and take Van Buren Street car to Morgan Street (15 minutes). Party will leave factory at 3:15 and proceed by street cars to Transformer and Storage Battery Station of Commonwealth-Edison Company, at 76 Market Street, arriving at 3:30 p.m. (see excursion [1] above). After spending thirty minutes here, party will take Elevated to Dearborn and Van Buren Streets, 4:15 p.m., and visit the Demonstration Installation of the Hoskins Manufacturing Company at 321 Dearborn Street. Various types of electric furnaces will be shown in operation, developing temperatures of from 500° to 3600° F. Also pyrometers connected in various ways with same switchboard indicating instrument. Visitors are also welcome at any time from 12 m. to 5 p.m. on Thursday and Friday. Walk to hotel (5 minutes).

4. Union Stock Yards and the Packing Plants of Swift and Company, Armour and Company, and Morris and Company.

Party under guidance of Mr. W. D. Richardson will leave Congress Hotel at 2:00 p.m., taking Stock Yards train on South Side Elevated.

At the Yards special guides will show visitors typical sights, processes, and installation, selecting the best and avoiding duplication. Returning, arrive in city at 5:00 p.m.

Friday Afternoon, October 14.

Three **alternative** excursions are arranged for Friday afternoon.

1. Illinois Steel Company, South Chicago works. In addition to numerous other things of interest may be mentioned eleven blast furnaces, a new steel shell for a blast furnace, a Gayley dry-air blast installation, two 3600 H. P. Snow gas engines, driving blowers, four Allis-Chalmers 3000 H. P. electric generators driven by gas engines, three Bessemer converters, open-hearth plant, plate mill operated by 1800 H. P. motor, a fifteen-ton Heroult electric furnace.

Party under guidance of Mr. William Brady will take Illinois Central suburban train at 1:00 p.m. from Van Buren Street Station. Arrive at works at 1:35 p.m. Leave South Chicago by 5:05 p.m. Illinois Central train, and arrive at Van Buren Street Station at 5:40 p.m.

2. Gary Steel Works and City of Gary, Illinois.

Four years ago the site of the steel works and the city of Gary was a waste of sand dunes and swamps. Today the world's largest and most modern steel works and a substantial and rapidly-developing city of 25,000 inhabitants stand here as a monument to the energy of

the Steel Corporation and the skill of their engineers. The electrical installation will be of highest interest to visitors. All machinery is driven by electric motors, the power being obtained from generators, each geared directly to a pair of gas engines supplied with blast furnace gas.

Party, under the guidance of Mr. W. V. Young, will leave the LaSalle Street Station on 1:42 p.m. Lake Shore train for Gary. Arrive, 2:47 p.m. Leave Gary at 5:15 p.m. Arrive at La Salle Street Station, 6:13 p.m.

3. Sears, Roebuck and Company, and the Washington and Franklin Streets Exchange of the Chicago Telephone Company.

At Sears, Roebuck and Company visitors will see the world's largest mail order establishment.

Party in charge of Dr. Edward Gudeman will leave the Congress Hotel at 12:00 m., proceed by Garfield branch of Metropolitan Elevated to San Francisco Avenue. A complimentary luncheon will be served at 12:30. The party will leave at 3:00 p.m. and returning to the city visit the Chicago Telephone Company's Exchange at Washington and Franklin Streets, at 3:30 p.m., where a completely equipped telephone station of large magnitude is to be seen. Leave at 4:00 p.m. and reach the hotel at 4:15 p.m.

Saturday, October 15.

Two **alternative** excursions are planned in addition to visits to the laboratories and museums of the University of Chicago.

1. The Lockport Power Station and the Drainage Canal.

The canal is one of the world's great artificial waterways. It is the first section of the "Lakes to Gulf" deep water-way. It receives the drainage of the city, which is diluted by a large volume of pure water from the lake. At Lockport, 35 miles from the lake, the canal empties into the Des Plaines River with a 36-foot fall. The Sanitary District has at this place a modern generating plant of 36,000 H. P. This power is now available for lighting, power, and electrical industries. This is the only important hydraulic power plant in this part of the country.

Party will take a special train on the Santa Fe from Dearborn Station at 2:15 p.m. The tracks of the Santa Fe follow the canal, giving a good opportunity to see what has been accomplished.

At the end of the canal the train will be run onto a spur near the locks, dam, and power house.

Returning, train will leave at 5:00 p.m., arriving in the city at 6:00 p.m.

The special train can be had only on a guarantee of seventy-five fares at $1.35 Since regular trains do not run at suitable hours, it is

necessary that all who contemplate making the trip should respond promptly.

2. The Field Columbian Museum.

This extensive museum of arts, manufactures, and natural history is located in Jackson Park, one mile east of the University. Take street cars on 55th Street for Jackson Park, or walk east on 57th Street. Return to city by Illinois Central suburban express trains from 57th Street Station. Express trains run every twenty minutes, and reach Van Buren Street in fifteen minutes.

ENTERTAINMENT OF LADIES.

A Ladies' Committee will take care of the entertainment of visiting ladies.

Ladies are invited to attend the sessions of the Society on Thursday morning, Friday morning and Saturday morning.

Ladies are also invited to attend all other visits as well as those specially arranged for them.

Ladies are particularly invited to be present at the dinner, Friday evening; also at the luncheon Saturday noon.

SPECIAL LADIES' EXCURSIONS.

Thursday, October 13.

Leave Congress Hotel, 9:00 a.m. by automobiles for Hull House, the social settlement of which Jane Addams is the head. Visit Juvenile Court and Mark White Square. Take luncheon at Hull House. After luncheon, pro-

ceed to Stock Yards, join men's excursion, and visit packing plants. Arrive at hotel at 5:00 p.m.

Friday, October 14.

Leave hotel at 9:30 a.m. Visit Field's store, State Street. 10:30 a.m. to 11:30 a.m., visit Art Institute on Michigan Boulevard. Start for Sears, Roebuck and Company at 12 m. Complimentary luncheon, Sears, Roebuck, and Company, 12:30 p.m. Visit Sears, Roebuck, and Company's plant. Arrive at hotel at 4:30 p.m.

Subscription dinner, 7:30 p.m., Congress Hotel.

Saturday, October 15.

(Morning free.)

Noon luncheon, members, visitors, and ladies, (50c) at the University of Chicago Commons.

Afternoon, visit Field Columbian Museum or Lockport and Drainage Canal.

REGISTRATION OF GUESTS.

Guests of the Society attending the meetings or the excursions are requested to register and obtain badges. Special badges will be provided for guests, including ladies.

Applicants for admission to the Society, who have deposited their Entrance Fee with the Secretary or Registrar, may enroll at the meeting as members, and wear the member's ribbon.

NOTES.

PROGRAM.

Wednesday, October 12th.

6:00 p.m. Registration begins. Congress Hotel.

Thursday, October 13th.

9:00 a.m. Meeting of the Board of Directors, Congress Hotel.

10:00 a.m. Reading and Discussion of Papers: Florentine Room, Congress Hotel.

(1) Method for Determining Thermal Conductivity: Carl Hering.

The Electric Furnace and Its Application: Marcus Ruthenburg.

Electrolytic Method of Producing Metals:: John W. Beckman.

(2) Reduction of Tin Dross in the Electric Furnace: R. S. Wile.

Notes on Tribo-Luminesence: W. S. Andrews.

The Proximate Constituents of the Chemical Elements with Reference to Radioactivity and Electrons: Gustavus D. Hinrichs.

2:00 p.m. Excursions and Visits starting from Congress Hotel. For details, see page 2.

Friday, October 14th.

9:00 a.m. Reading and Discussion of Papers, Forentine Room, Congress Hotel.

Electrochemical Preparation of Calcium: Prof. A. R. Johnson.

NOTES.

(Numbers prefixed to papers on program indicate papers printed in advance, numbered correspondingly.)

Efficiency in the Electrolytic Preparation of Calcium: Francis C. Frary, Henry R. Bicknell and Carl A. Tronson.

Electrochemistry of Polonium and other Radioactive Elements: Prof. A. R. Johnson.

The Present Status of Ozone: R. D. Small.

The Evolution of the Lead Storage Battery: Pedro G. Salom.

A New Secondary Cell: W. S. Block.

The Self Discharge of Plante and Faure Storage Batteries: Prof. O. W. Brown and W. G. Bowers.

Corrosion of Metallic Food Containers—Causes and Prevention: Dr. Edward Gudeman.

Electrolytic Corrosion of Various Metallic Anodes in a Liquid Ammonia Solution, Ammonium Trinitride: A. W. Brown, M. E. Holmes and J. S. King, Jr.

Electrolysis of Solutions of Ammonium Trinitride and of Potassium Amide in Liquid Ammonia: A. W. Browne and M. E. Holmes.

On the Electrolysis of some Cyanides: H. E. Patten and W. R. Mott.

2:00 p.m. Excursions and Visits starting from Congress Hotel. For details, see page 4.

NOTES.

7:30 p.m. Subscription Dinner at the Congress Hotel. $3.00 per cover. Ladies particularly invited.

Saturday, October 15th.

9:00 a.m. Reading and Discussion of Papers, Room 20, Kent Chemical Laboratory, University of Chicago.

Application of Electrostatic Separation to Ore Dressing: F. S. MacGregor.

The Isolation of an Ion and a Precision Measurement of its Charge: Prof. Robert A. Milliken.

Phenomenon of Crystallization through Membranes: Dr. J. H. Walton, Jr.

On the Relative Basicity of the Metals as Shown by their Power to Replace One Another in Chemical Compounds: Dr. L. Kahlenberg.

On the Effect of Water in Causing Chemical Reactions: Dr. David Klein.

The Physical and Magnetic Hardness of some Electrolytic Iron Alloys: James Aston.

12:00 m. Luncheon, University Commons, 50c per cover.

1:00 p.m. Excursions and Visits, Leaving University of Chicago. For details, see page 6.

NOTES.

CHICAGO HOTELS.	EUROPEAN PLAN EXCLUSIVELY.			
	Single Room Without Bath	Single Room With Bath	Double Room Without Bath	Double Room With Bath
CONGRESS (Headquarters)	$2.00 to $3.00	$3.50 to $5.00	$3.00 to $5.00	$5.00 to $7.00
AUDITORIUM.....	$2.00 to $2.50	$3.50 to $4.00	$3.00 to $4 00	$5.00 to $6.00
LA SALLE.....	$2.00 to $3.00	$3.00 to $5.00	$3 00 to $5.00	$5.00 to $8.00
GREAT NORTHERN	$1.50 up	$2.50 up	$3.00 up	$4.00 up
GRAND PACIFIC.....	$2.00 up	$2.50 up	$3.00 up	$4.00 up
PALMER HOUSE.....	$1.50 to $2.00	$2.50 to $3.50	$2 00 to $3.00	$3.50 to $5.00

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University of Wisconsin Section.
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Chicago Section.
Prof. H. N. McCoy, Chairman, University of Chicago.
A. B. Marvin, Secretary-Treasurer, Chicago.

ADMISSION AND DUES.

Entrance Fee, $5.00; Yearly Dues, $5.00. Application blanks and any other information may be obtained from the Secretary. Each member receives the Transactions of the Society containing the papers and discussions of the General Meetings of the Society.